

A Proposal for Revision of Curriculums of Schools of Public Health

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THE TRADITIONAL curriculums of many schools of public health throughout the world do not reflect the modern precepts of rational decision making and planning. Courses in planning are given in such schools—indeed, students may be exposed to highly sophisticated techniques of cost-benefit analysis, of information gathering and retrieval systems, and of decision-making theory. However, curriculum structure itself usually does not include the fundamental concepts that lead to building a health services system.

Curriculum structure too often does not include systematic and comprehensive consideration of health needs, demands, or problems. The usual disciplinary approach does not induce the student to think about the relative significances of these health factors or of their interrelationships in an organized manner. Instead, the approach sets forth primarily instruments or tools from disciplines such as epidemiology, biostatistics, social science, public health, and hospital administration. In proceeding with means without considering ends, the disciplinary approach also creates an atmosphere of fragmentation.

Schools of public health were created specifi-

cally to bring various disciplines together for a combined approach to community service (1). Yet the departments or divisions which teach these disciplines often are relatively isolated from each other. A biostatistician may consider teachers of administration to be working in the realm of magic because so much is uncertain about administration. Similarly, a teacher of administration may say that biostatisticians are in retreat from the most important challenges of today. The traditional system does little to help each specialist understand the other's work or to involve all concerned in the joint efforts needed to do a job well.

Medical Care—an Inadequate Framework

Many schools of public health tend to accord independent organizational status to medical care—a tendency encouraged by the weight given to hospital administration, a specialty within medical care. This is an inadequate perspective from which to regard many of the health challenges extant in any community. Other factors besides medical care are of obvious relevance to patients who may receive such care.

For example, effective education about smoking is certainly a better way to deal with lung cancer than palliative surgery, and the extent of injury to automobile accident victims can be more effectively reduced outside rather than inside the hospital. Furthermore, many persons would not become patients if they had adequate housing and nutrition. Thus, in a limited sense,

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the acute-care hospital treats, except for women with normal deliveries, persons whom society has failed to handle effectively through primary means. The hospital is often a last-chance facility—its work being determined by the extent to which other social institutions fail to function properly.

In addition to the traditional proposition that public health emphasizes prevention, there is the consideration that various tasks should be divided appropriately among various health agencies and organizations according to their capabilities. The recent trend to designate the hospital as the nucleus of all health care should be critically scrutinized. No medical care institution can assume the responsibility for improving highway safety, for air and water pollution control, and for broad-scale health education. Furthermore, hospitals usually are not equipped or located well enough to provide total neighborhood services, especially the larger ones built decades ago.

Today most health services can be performed more effectively in an organized setting. Even a private practitioner finds virtually indispensable such supporting resources as laboratories, specialized diagnostic facilities, standardized and regulated sources of drugs, and a variety of specialized institutions where he can send patients when indicated. All such resources must function in organized settings.

One underlying principle of organization is that interrelated parts move concordantly. Because all health-related factors are in turn related to each other, they need a common framework. Emphasis on medical care as the base of this framework stresses cure rather than prevention and tends to neglect the social factors in health and illness—such as family and community structure—and broad environmental health problems.

Not only are the relationships between medical care problems and other health problems complex and infinite, but there is also the ultimate consideration—the necessity to make decisions about how best to allocate resources among various programs, activities, or techniques in order to advance health purposes. These decisions can be made properly only in terms of the relative productivity and cost of each means proposed. Thus, one cannot fully

consider which resources should be committed to medical care without comparing their value for health purposes to those of all other areas of health activity that, with similar effort, could be brought forward.

In considering this matter, Roemer (2) has noted the traditional value of the public health movement, with its emphasis on prevention. Sensitive to the need for community support, however, he observed that the permanent structure necessary to carry out health programs effectively “cannot be built with a mission of preventive services alone.” He argued that such a structure “must meet the needs of the people, as they are felt by the people, and this requires that the pain and distress of sickness which has not been prevented must be confronted.” As a second major consideration for advancing the status of medical care Roemer rejected, “on the grounds that specialization is called for,” the idea that “the whole field of administration of all types of health service should be coalesced under the umbrella of ‘health service administration’.”

Undeniably, specialization is needed, acute care is more dramatic than preventive care, and public support is crucial to the long-term success of any health mission. But we cannot concur with Roemer’s premise.

It is a self-fulfilling prophecy that so long as health professionals are guided solely by what the public wants rather than by what, in their informed and specialized judgment the professionals recommend for the benefit of the public, popular feelings will be the catalyst for health actions. One might ask what the public would want if it fully understood the benefits of the community health approach. Schools of public health have a particular responsibility in this regard, and their leadership and community education ought to be based on considerations of the total health of the total community, not upon a special field of interest.

Mission-Oriented Teaching

Conditions within many schools of public health mirror the fragmentation and lack of rationalism found in health services outside. They are not only a reflection, however, they are also a cause. Such schools have a rather well-defined mission, one that is not confined to im-

parting knowledge and skills to students. Uniquely, their aim is to have the most beneficial effect possible upon the health and functioning of the people in the community. Thus, schools of public health should organize their curriculums accordingly. Moreover, organization of the curriculum that takes into account the community mission will provide the most meaningful learning experience for students. Curriculums should be modeled on the decision-making designs students are expected to follow in their postacademic careers.

Specialists in curriculum construction distinguish between content (information to be learned) and process (the learning act); they also emphasize the importance of process for the impact that it has upon the learner. Crucial to the learning process is the experience that the student has as he progresses through the curriculum rather than the material that he is supposed to assimilate. Although curriculum content may make assertions as to validity of certain principles, their impact is largely undone if the activity through which the student is led belies those assertions (3).

It is unreasonable to expect a graduate to take a broad view of the health field if his experience in school has been narrowly contained within a single area such as maternal and child health, sanitary science, or hospital administration. It is unreasonable to expect a graduate to consider in a balanced perspective the many competing claims on limited health resources if in school he has seen isolation and competition among divisions and disciplines.

We recognize that the radical change we propose is not easy to bring about and that the requisite motivation is difficult to generate. The sheer magnitude of the work of recasting the teaching modes and materials and of coordinating the efforts of various specialist teachers make the outcome of such a venture somewhat uncertain. Yet we make the plea that the time is overdue to begin a widescale—worldwide—dialog concerning the rationalization of curriculums of schools of public health.

A Proposal for Curriculum Design

Integration and specialization. A school of public health curriculum should simultaneously fulfill the conflicting needs for comprehensive-

ness and integration and for specialization. This, we suggest, might be best accomplished by establishing a broad picture of the health field as firmly as possible in the mind of the student and then following up with specialized education and experience. The intent is to build a base sufficiently strong to contain the counter-currents of fragmentation and conflict that stem from the demands of modern organization. The organization called for involves a core course followed by elective courses and fieldwork. The proper distribution of time for each depends on student characteristics and other conditions that vary from school to school, which cannot be detailed here. Suffice it to say, the core material required for most master's degrees in public health or hospital administration probably should represent no more than half the time invested in the first 12 months for either a 1- or 2-year curriculum. The major innovations that we propose are in the core course.

Phase one: definition of the problem. The most significant feature of the core course is that it starts with a comprehensive examination of health problems in the particular geographic area or areas with which the school is concerned. Before the means of conducting attacks on targets are considered, it is necessary to define the targets. A presentation of the extent and characteristics of diseases, disorders, and defects and of environmental hazards and the social components of illness and of other health problems will establish priorities. The usefulness of an activity depends at the onset on whether it is directed toward a proper purpose. Early in the teaching year the question, "Why are we here?" can be answered in terms of community needs and goals. At this time, the student's requirements for a sense of mission can be best satisfied. Rather than beginning the program with tool courses, the value of which may appear quite obscure to students, this approach focuses upon purposes first; later, when tools are presented their relevance will become clear.

The survey of problems should encompass varieties of health challenges for all people—"total health for the total community." Rather than consist of simply an enumeration, the survey should consider the relative importance of different health problems and establish priorities. Obviously, the combined efforts of various

departments of the school are required to paint this broad panorama, but epidemiologists, biostatisticians, and social scientists should probably predominate. The primary focus at this curriculum stage is on health problems—personal or environmental—as distinguished from those of organizational structure, management functions, financing, methodology developments, or other administrative factors.

Obviously, there are limitations as to what can be taught within a reasonable time about the extent and characteristics of all human ailments and environmental hazards in a community. Similarly, it is often not possible to establish health priorities with mathematical precision. However, the intent is to follow rational decision-making procedures to the extent that is reasonably possible. It is not justifiable to follow established procedures without question or to make decisions, or guesses, without examining as many relevant factors as possible. Moreover, the approach is important, because concepts, outlooks, and thought habits are being acquired by students; the fact that the ideal is unattainable does not justify the abandonment of all rationality. Again, differences of opinion as to priorities may be expected, but at least priorities will be intentionally considered. An expected dividend of this process should be periodic reexamination by faculty members of their ideas about the relative importance of various health needs and demands. Assumptions about needs must be challenged regularly because they are the starting point from which all else proceeds. Also, they change, often insidiously and without warning.

The logical next step from the comprehensive overview of community health problems would be the introduction of methods and techniques by which health needs are determined. Epidemiologists, biostatisticians, and survey methodologists could pointedly demonstrate the significance of systematically gathering and analyzing data in relation to health needs. The emphasis would be best placed on "problem definition," rather than creation of professional images in particular disciplines such as epidemiology or biostatistics. If the sense of mission is firmly established, the students will come to view the work of the professionals not as abstract subjects to be learned for passing ex-

aminations, but as essential tools for the proper accomplishment of community health goals.

From the introduction to methods of data gathering on health needs, the epidemiologists, biostatisticians, and social scientists could then turn to the application of their disciplines to an inventory of health resources and activities. The main purpose at this point is the consolidation of epidemiologic and biostatistical skills through their application to somewhat different areas. But this teaching activity also can serve as a step to the next major curriculum section, which deals with resources.

Phase two: resources and activities. Phase two of the proposed curriculum is a comprehensive and descriptive presentation of all the community resources which deal with health. It calls for information about the various kinds and numbers of health personnel, institutions, and agencies and their organization and financing. Laws and regulations should be presented. Again, comprehensiveness and balance are sought—an overview to provide students with a sense of fitting into a complicated network of interdependent resources. This effort would be largely descriptive, but interpretation and analysis are inherent parts of it. A general idea of administrative problems encountered in the health field would emerge from examination of the administration of specific services.

Student understanding of this phase would be enhanced if it is accompanied by historical explanations of how present conditions developed. Effects of social, political, and economic factors that have influenced health efforts should also be discussed. Faculty members should again be drawn upon in appropriate combination of their special knowledge, skills, and experience. The concepts of an economist would be important in depicting the insurance and social security structures and other financial aspects of health services. Hospital administrators could describe the organization and management of their institutions. Special activities such as nutrition, maternal and child health, mental health, dentistry, and the broad field of environmental hazards should be included. Clearly, the challenge to the faculty to organize and integrate diverse subject matter into a smooth, meaningful presentation would be substantial. However, the accomplishment of this task is a step toward

overcoming the fragmentation of health services.

Phase three: administration and application. We propose that the teaching of ideas, concepts, and techniques of administration follow the concrete and factual presentations of phases one and two. Administration is construed broadly to include descriptions of decision-making processes at both the community and the health agency levels. A survey of organizational theory is needed in phase three, supplemented by an introduction to quantitative techniques such as systems analysis and automated information systems.

In addition to the theoretical aspects of administration, the students will need to acquire practical skills. They should be exposed to modern budgeting and personnel administration. Moreover, a relatively thorough grounding in the planning process is important, since the aim of this process is essentially the rationalization of health services—the fundamental purpose in health administration.

In phase three, case studies and seminars would bring together all material presented in the core course. The aspects of administration taught in the initial part of phase three should relate to the health problems identified in phase one and to the resource and administrative problems identified in phase two. A cross-application by the student of the knowledge and skills drawn from all three phases—a process of intellectual discovery—would be most rewarding to health administrators. Equipped with factual, practical, and theoretical information, the student would eventually strengthen his ability to devise solutions to problems in health administration. The faculty would stimulate and challenge rationality of approaches rather than feed information and patterns of past action.

During the cross-application stage, the skills of a variety of faculty members would again be needed because the experience of the three phases would be repeated in miniature but with initiative largely left to the students. The students would begin with identification of problems, using newly acquired techniques, and progress to assessment of present services and resources. There should be exercises in which students design programs, projects, or subsystems for health services. Design of services

should take into account social, economic, and political factors and result in comprehensive plans that include the details of implementation.

Elaboration of Core Course Rationale

Schools of public health are organized for the promotion of the health of the community as a whole, whereas other professional educational institutions generally are organized for a discipline such as medicine, engineering, or law. To advance their purpose, schools of public health employ specialist physicians, economists, business administrators, chemists, engineers, statisticians, nurses, health educators, sociologists, and even political scientists. A great number of persons with different skills and experience are thus available to undertake the complicated tasks necessary in providing health care services. This variety of specialists is at once the strength of, and the challenge to, such schools. Unless the activities of the many specialists and generalists are united for the accomplishment of the mission, their individual values are diminished. The traditional curriculum approach tends to emphasize disciplines as disciplines rather than as bodies of information and skills that can be advantageously addressed to the mission.

Many different professional groups and other social organizations in the community contribute to the fragmentation of health services. The effects of uncoordinated forces on health services are found in both the community and the school of public health. The school should be in an advantageous position to overcome the difficulty within itself, however. Although the school is divided as to disciplines, it is united as to mission. This cannot be said of community health groups or professional organizations.

A school of public health is an extraordinary example of an institution that deals with administration. The essence of administration is coordination of numerous diverse talents so that they work in harmony and therefore produce optimally. In our curriculum proposals we seek not merely addition of a few courses or course titles, but rather a weaving together of teaching material on community health in a rational manner. This gives significance and rationality to the contributed parts as they unfold in the

learning experience of the student. Disciplines are brought into teaching and learning as they are needed. Tools or instruments are introduced only after the student is thoroughly immersed in problems, goals, and priorities. This is a deliberate attempt to schedule teaching material and student activity so as to build highly sought perspectives of breadth, interrelatedness, and balance.

Grounded in the core course material, students would move on to elective courses. They could elect to specialize in a relatively confined area such as epidemiology, maternal and child health, or hospital administration, or they could select a variety of options in different specialties. Similarly, fieldwork could offer opportunities to acquire fuller knowledge in a limited area or a diversity of experience. The problems of educating specialists are not nearly so great as those of coping with the separatist tendencies generated by unbridled specialism, a difficulty to which the core course is addressed.

It may be argued that what we propose is idealistic and unattainable. Thus, some clarification is in order. We seek neither a set of precious distinctions between means and ends nor three watertight compartments in phases one, two, and three. To insist that no action can be taken unless it follows precisely the dictates of rational decision making is unrealistic. To insist that administrative problems or techniques could never be discussed during phase one—the presentation of health problems—would probably result in stilted and artificial rigidity. However, these facts do not invalidate the adoption of the rational decision-making model as a guide for the main outlines of a core course and to provide a means for breaking out of traditional patterns of thought and teaching.

It might also be argued that our proposal would lead to narrow vocationalism of schools of public health by emphasizing problem solving and the application of knowledge and skills. But there is enormous intellectual challenge and complexity encountered in the provision of

health services. Our approach would focus the wide range of competence found among the faculty in the schools of public health specifically and effectively on this challenge and complexity. It stresses purposefulness and application, but that is entirely consistent with the concept of the role of a school of public health. It also stresses, on a grand communitywide scale, the search for better ways to do things and for better things to do—this is hardly narrow vocationalism.

Multitudes of factors in the community and in medical societies and health financing institutions have created the “non-system” characteristics of health services. It may seem unduly ambitious to expect schools of public health to influence patterns of health services toward greater rationality. The schools generally are not large institutions and not numerous. Yet they do have the responsibility to educate future health administrators. Since they have a diversity of professions working together for improvement of health and social functioning, these schools are potentially equipped to succeed in their mission. The outcome is more likely to be successful if schools of public health rationalize their approaches to their teaching of community health concepts.

REFERENCES

- (1) Winslow, C.: The accreditation of North American schools of public health. American Public Health Association, New York, 1953.
- (2) Roemer, M. I., and Gomez, H. A.: Instruction on medical care organization in the basic curriculum of Latin American schools of public health. Paper presented at the Fifth Conference of the Schools of Public Health of Latin America, Buenos Aires, Argentina, November 26–December 1, 1967, pp. 2 and 3.
- (3) Parker, J. L., and Rubin, L. J.: Process as content: curriculum design and application of knowledge. Rand McNally & Company, New York, 1966.

Tearsheet Requests

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